IN THE CLAIMS:

1. (Currently Amended) A stator assembly for a brush-type permanent magnet DC motor, the stator assembly comprising:

a stator body having a central axis and an inner wall disposed about the central axis, the inner wall having at least one entirely curved raised portion and at least one entirely curved recess adjacent to the at least one raised portion, the at least one raised portion being closer to the central axis than the at least one recess, the at least one raised portion defining a flux recovery feature, and

at least one permanent magnet mounted within the recess such that an inside radius of the magnet is substantially the same as, and concentric with, an inside radius of the raised portion as measured from the central axis, with the flux recovery feature and magnet defining a magnetic circuit,

wherein, in section, the at least one raised portion is joined directly with a surface defining the at least one recess by a generally S-shaped structure thereby defining an entirely curved and non-planar transition there-between.

2. (Original) The stator assembly of claim 1, wherein two raised portions and two magnets are provided.

3. (Original) The stator assembly of claim 1, wherein a plurality of raised portions and a plurality of permanent magnets are provided, with the number of permanent magnets being equal to the number of raised portions and being half the number of poles of the motor.

4. (Original) The stator assembly of claim 1, wherein the at least one raised portion is integral with the stator body.

5. (Original) The stator assembly of claim 1, wherein an exposed surface of the flux recovery feature is of substantially the same dimensions as an exposed surface of the magnet.

6. (Currently Amended) A stator assembly for a brush-type permanent magnet DC motor having N number of poles, the stator assembly comprising:

a stator body having a central axis and an inner wall disposed about the central axis, the inner wall having at least one entirely curved raised portion and at least one entirely curved recess adjacent to the at least one raised portion, the at least one raised portion being closer to the central axis than at least one recess, the at least one raised portion defining a flux recovery feature, and

at least one permanent magnet mounted within the recess and defining with the flux recovery feature, a magnetic circuit,

wherein an inside radius of the magnet is substantially the same as, and concentric with, an inside radius of the raised portion as measured from the central axis,

wherein, in section, the at least one raised portion is joined directly with a surface defining the at least one recess by a generally S-shaped structure thereby defining an entirely curved and non-planar transition there-between,

wherein a number of raised portions is equal to a number of magnets and the number of magnets is N/2.

7. (Original) The stator assembly of claim 6, wherein two raised portions and two magnets are provided for a four-pole motor.

8. (Original) The stator assembly of claim 6, wherein the at least one raised portion is integral with the stator body.

9. (Original) The stator assembly of claim 6, wherein an exposed surface of the flux recovery feature is of substantially the same dimensions as an exposed surface of the magnet.

10. (Currently Amended) A stator assembly for a brush-type permanent magnet DC motor, the stator assembly comprising:

a stator body having a central axis and an inner wall disposed about the central axis, the inner wall having entirely curved wall means for recovering flux extending toward the central axis and at least one entirely curved recess adjacent to the curved wall means, and

at least one permanent magnet mounted within the recess such that an inside radius of the magnet is substantially the same as, and concentric with, an inside radius of the wall means as measured from the central axis, with the wall means and magnet defining a magnetic circuit,

wherein, in section, the wall means is joined directly with a surface defining the at least one recess by generally S-shaped structure thereby defining an entirely curved and non-planar transition there-between.

11. (Previously Presented) The stator assembly of claim 10, wherein the wall means includes two raised portions extending from the inner wall, and wherein two magnets are provided.

12. (Previously Presented) The stator assembly of claim 10, wherein the wall means includes a plurality of raised portions extending from the inner wall, and a plurality of permanent magnets are provided with one magnet being disposed between two raised portions.

13. (Original) The stator assembly of claim 10, wherein the number of permanent magnets is equal to the number of raised portions and half a number of poles of the motor.

14. (Previously Presented) The stator assembly of claim 10, wherein the wall means is integral with the stator body.

15. (Previously Presented) The stator assembly of claim 10, wherein an exposed surface of the wall means is of substantially the same dimensions as an exposed surface of the magnet.